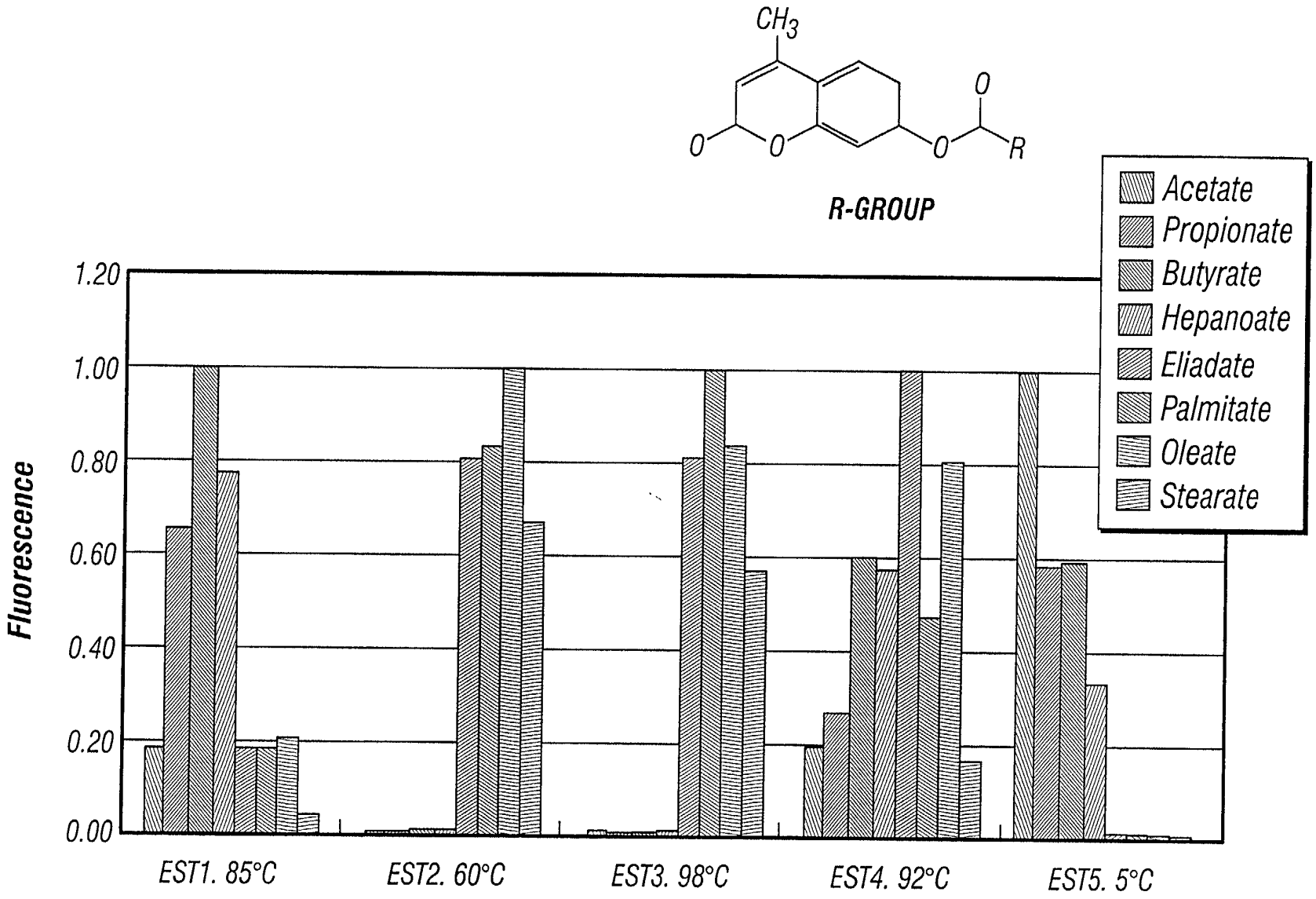


FIG. 1

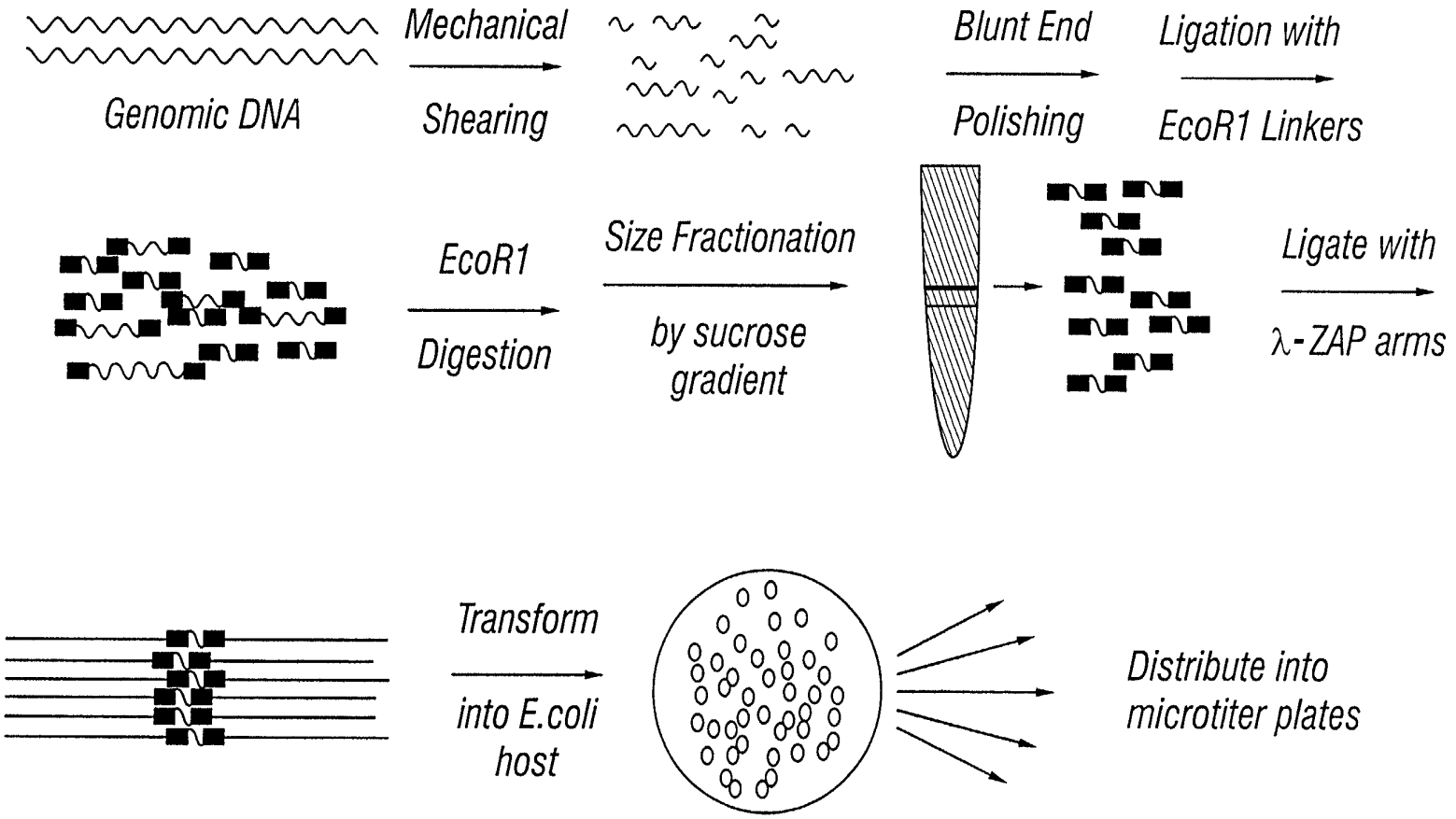


FIG. 2

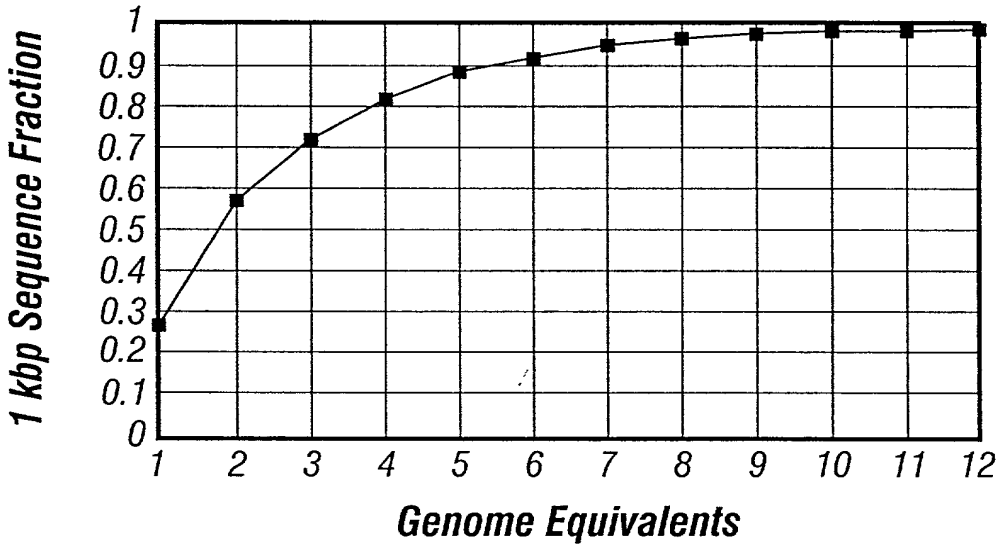

1 kbp Sequence Fraction
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1
2
3
4
5
6
7
8
9
10
11
12
Genome Equivalents

FIG. 3

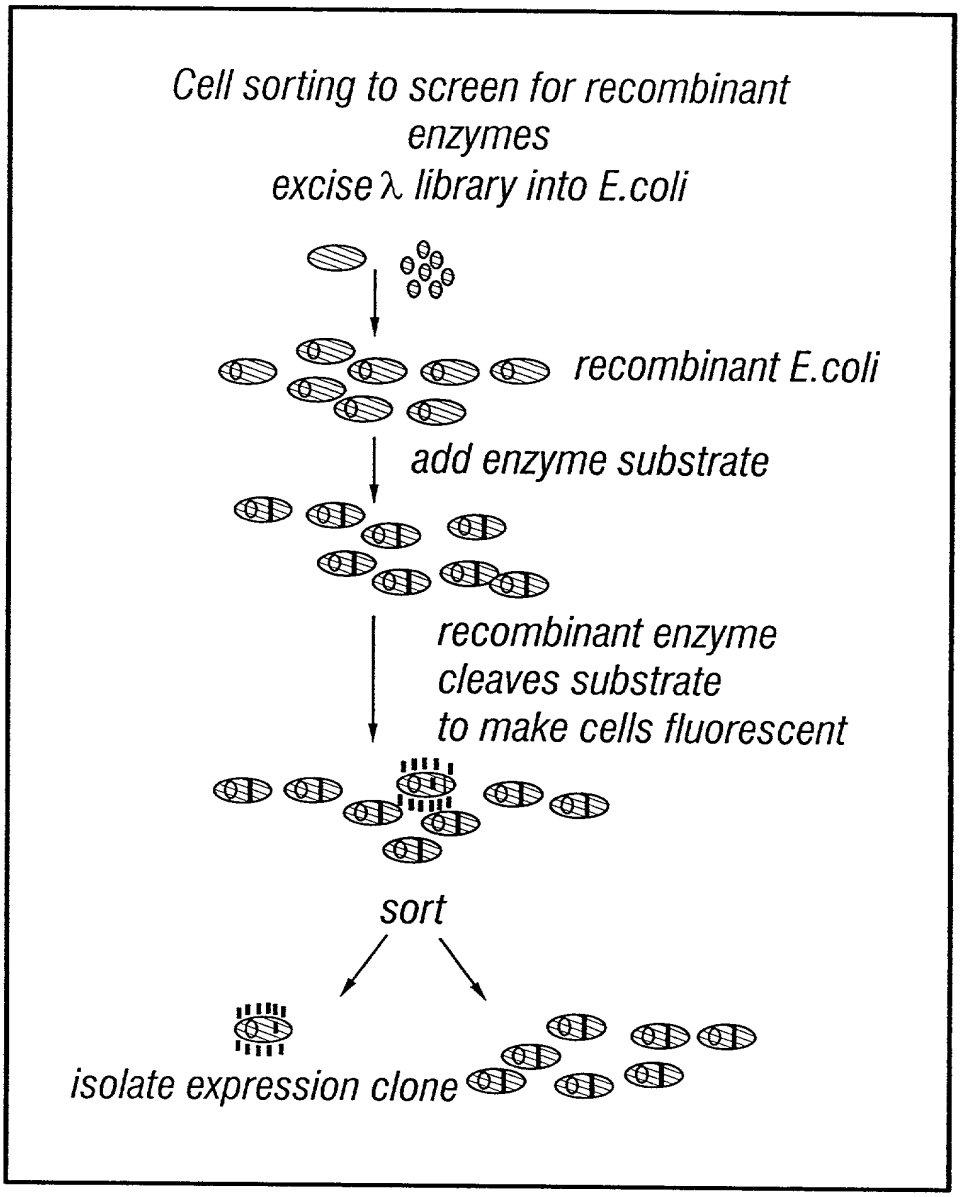


FIG. 4

β-Gal clone with different substrates

- *cells were stained with FDG, CMFDG or C12FDG, incubated for 30 min. at 70°C, spotted onto a slide and exposed to UV light.*
- *bright spot indicates staining of cells*

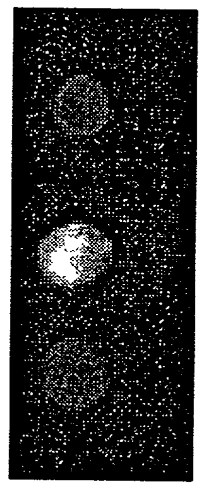


FIG. 5

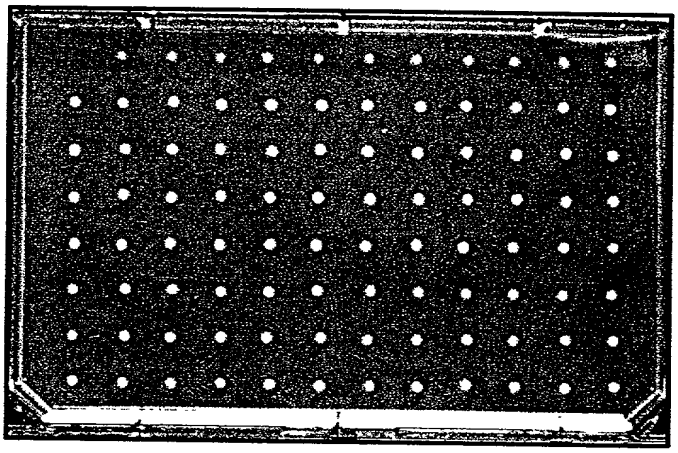


FIG. 6

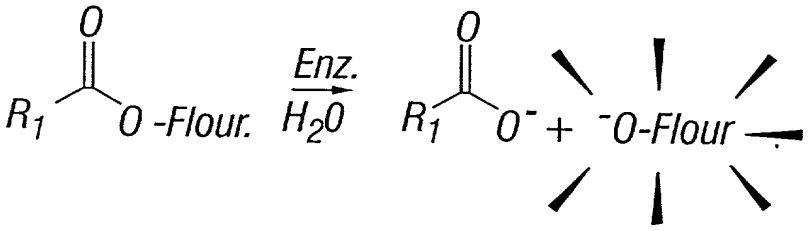


FIG. 7

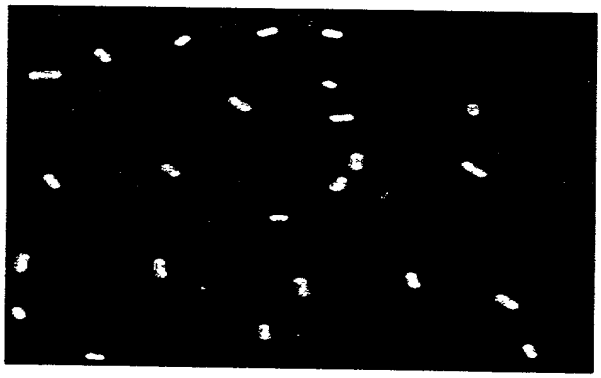


FIG. 8

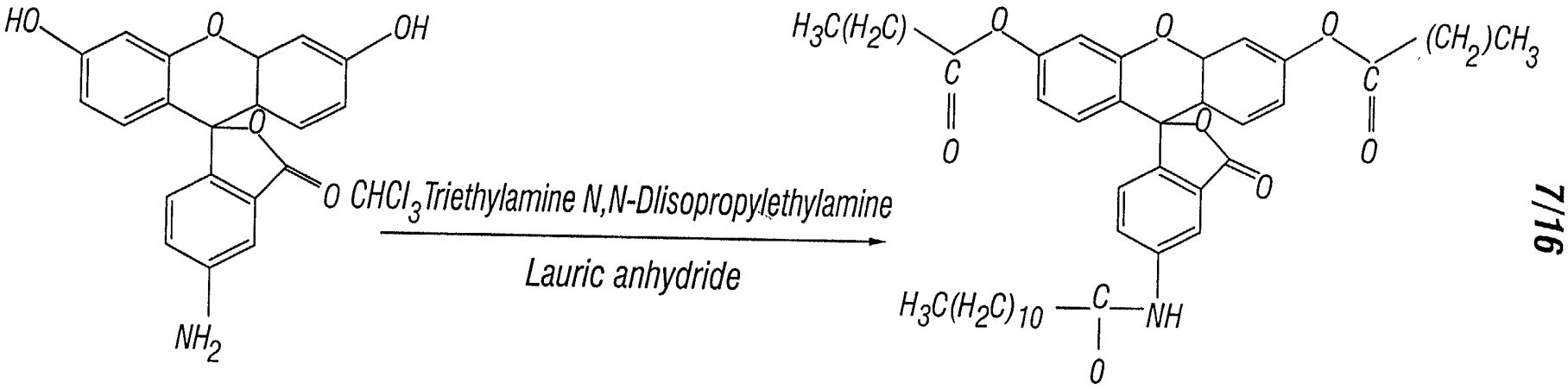


FIG. 9

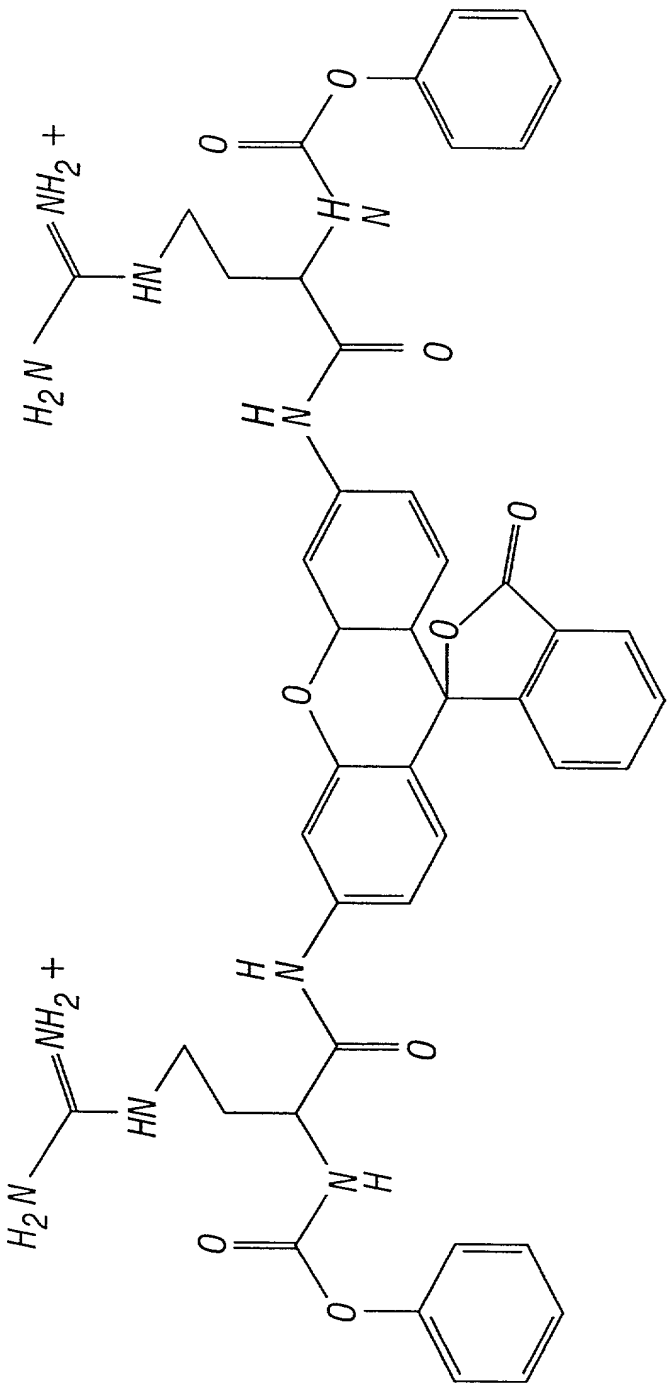


FIG. 10

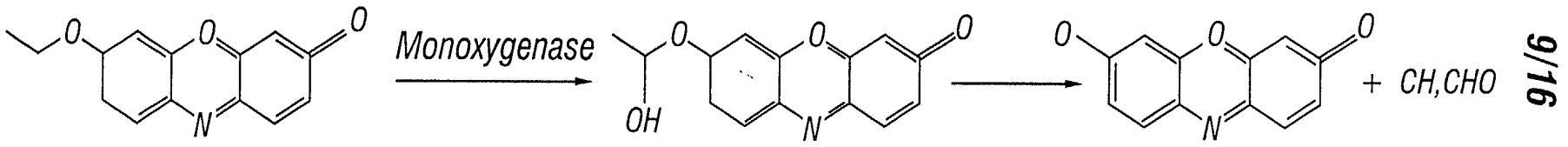


FIG. 11

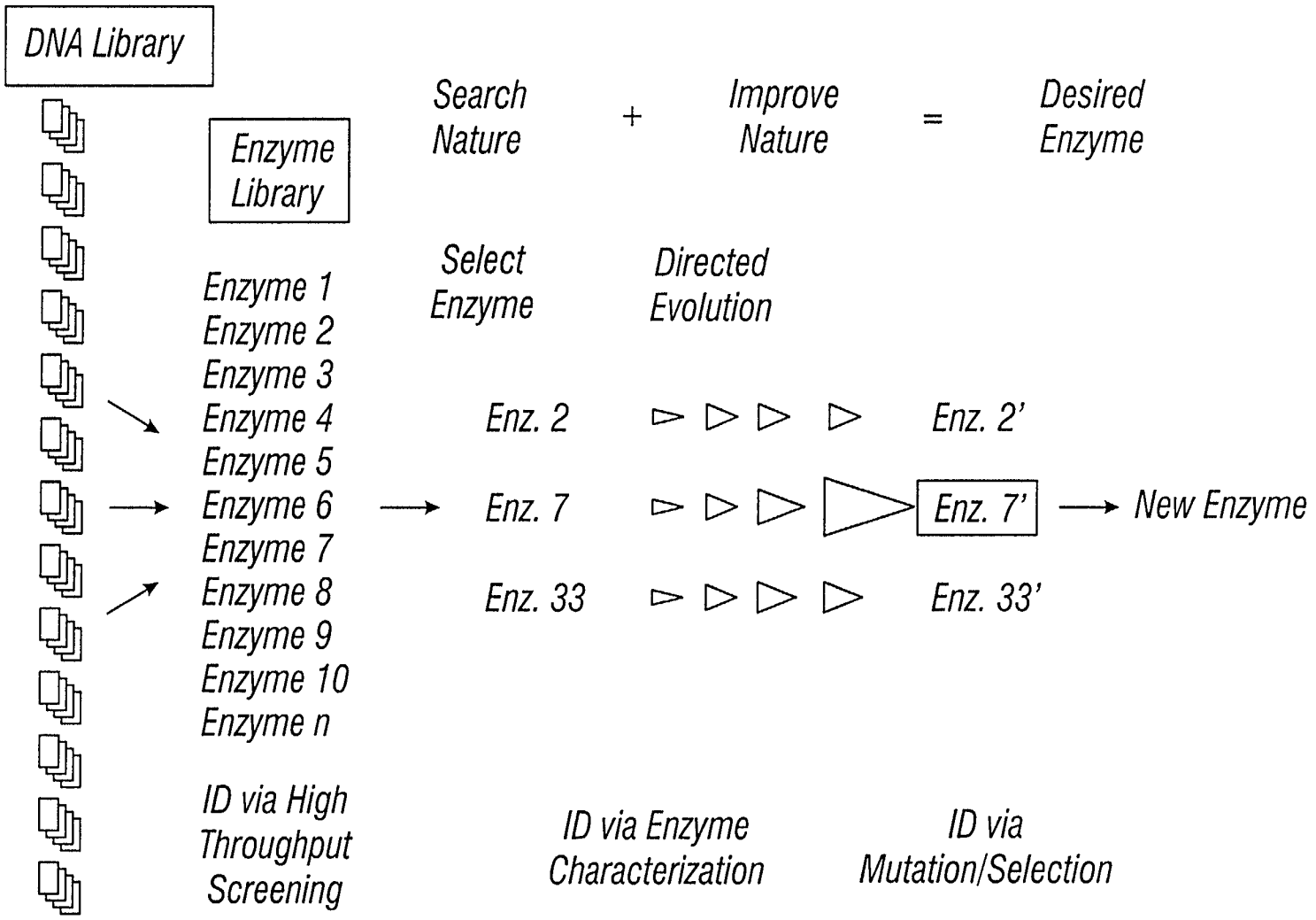


FIG. 12

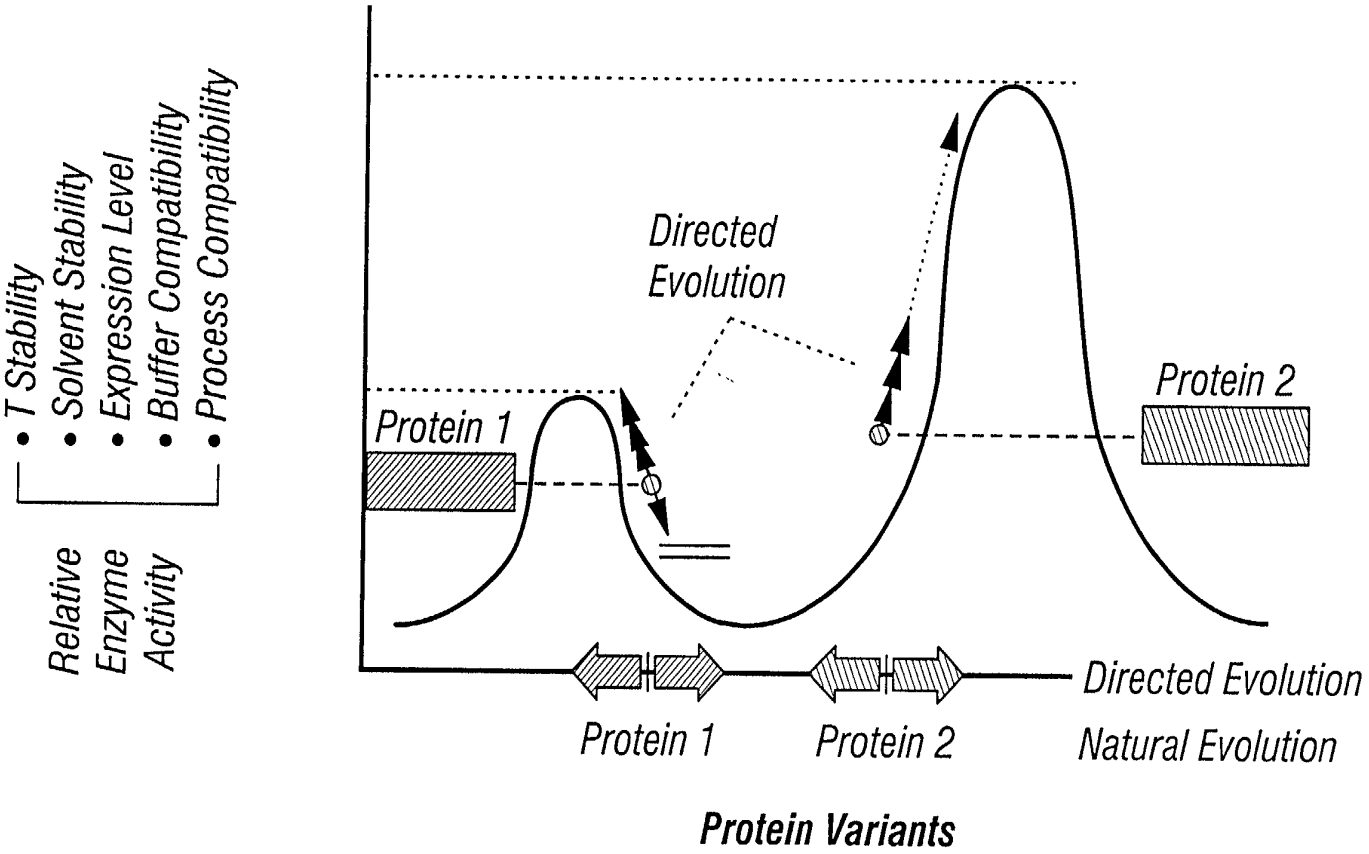
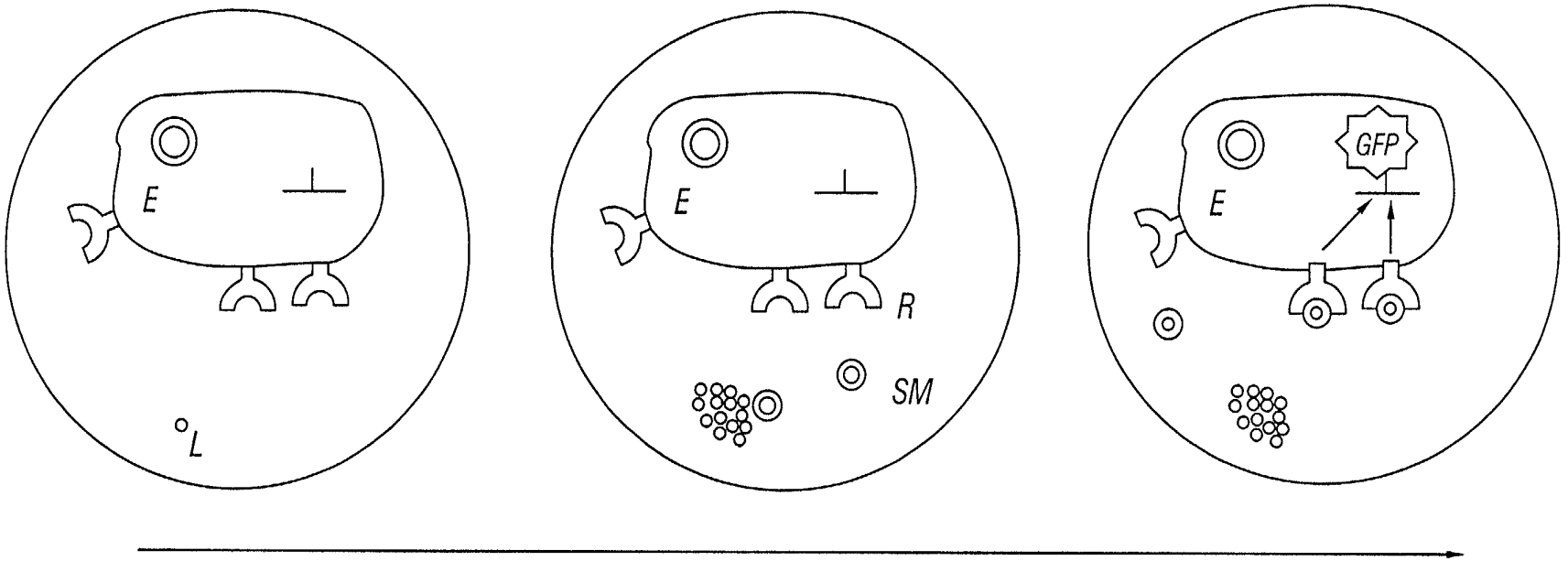

• T Stability
• Solvent Stability
• Expression Level
• Buffer Compatibility
• Process Compatibility
Relative Enzyme Activity
Directed Evolution
Protein 1
Protein 2
Protein 1
Protein 2
Directed Evolution
Natural Evolution
Protein Variants

FIG. 13



Co-encapsulation
Library + Eukaryote

Growth and expression
of small molecule from host

Receptor binding of small
molecule & GFP reporting

E=Eukaryotic assay organism	*L=Large insert library*	*SM=Small molecule*
GFP= Green fluorescent protein	*R=Eukaryotic receptor*	

FIG. 14

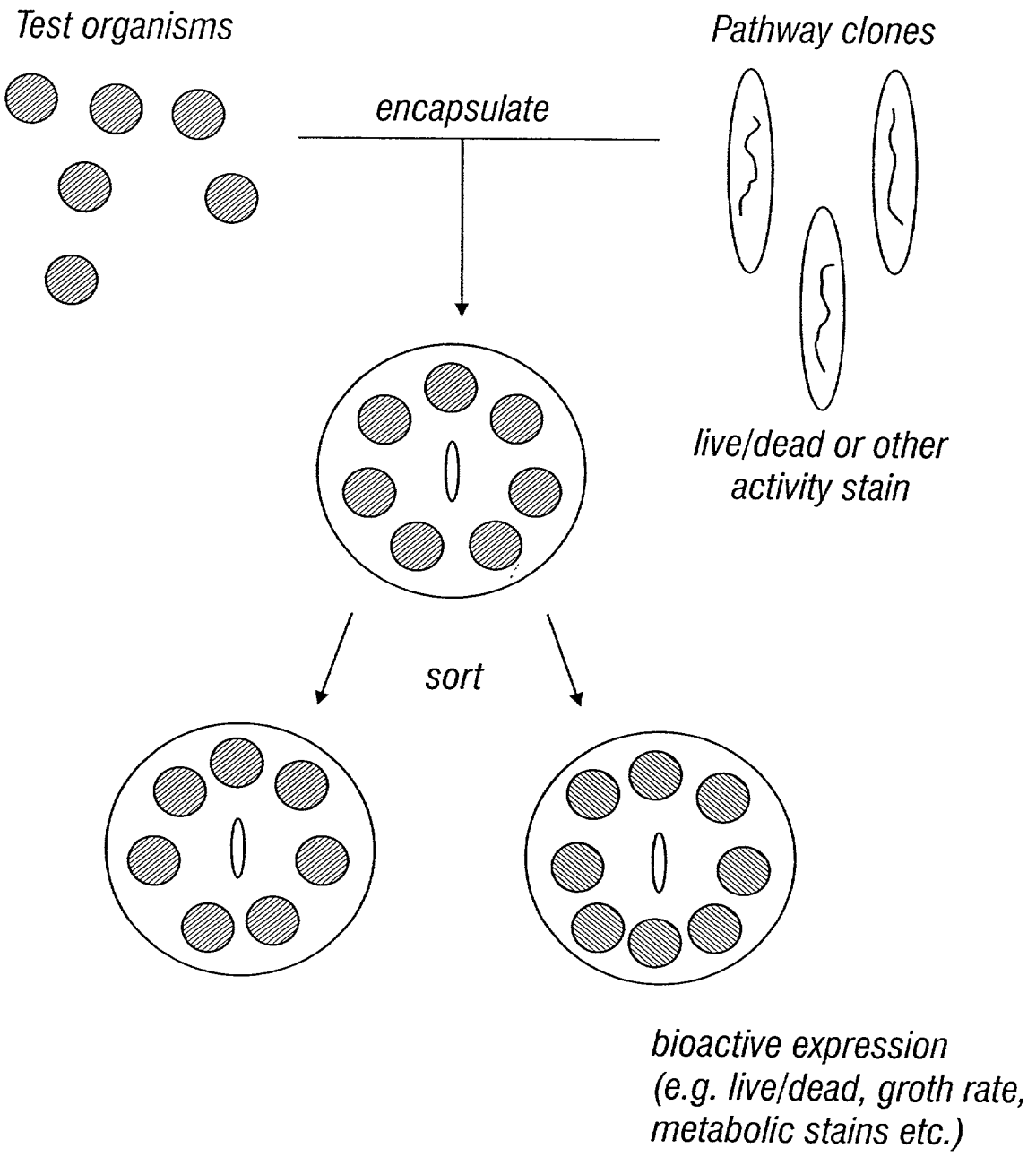
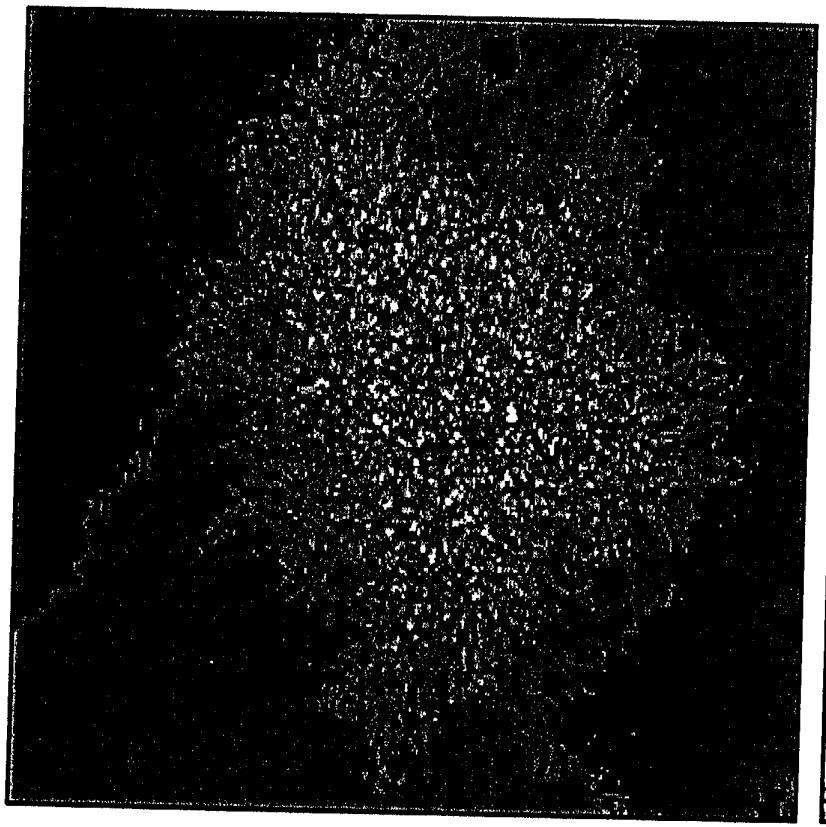
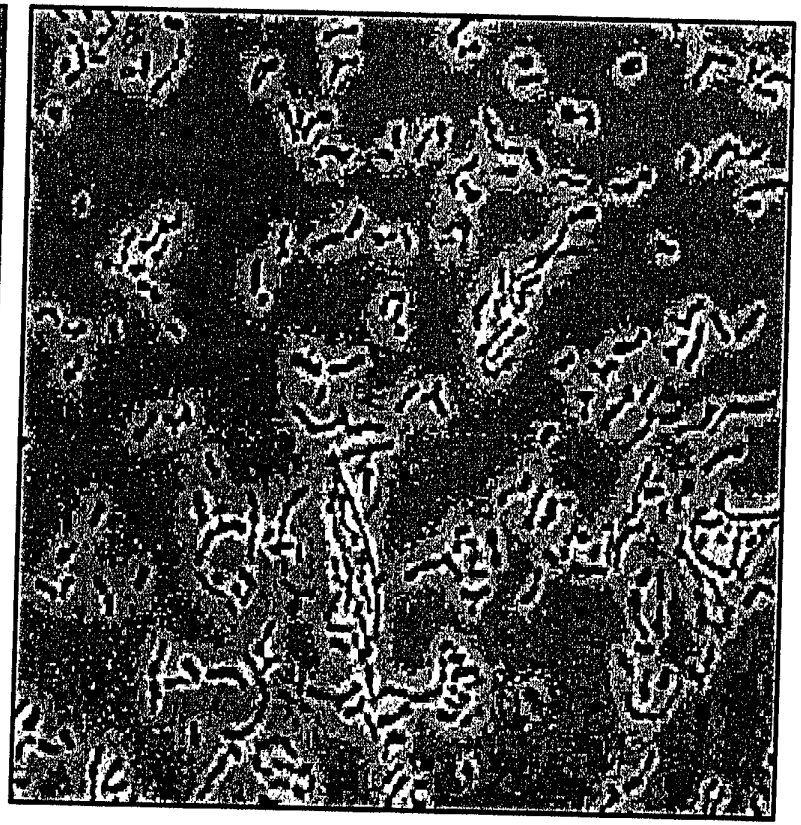

Test organisms
Pathway clones
encapsulate
live/dead or other
activity stain
sort
bioactive expression
(e.g. live/dead, groth rate,
metabolic stains etc.)

FIG. 15



Streptomyces lividans
mycelia



Streptomyces "diversa"
Unicells

FIG. 16

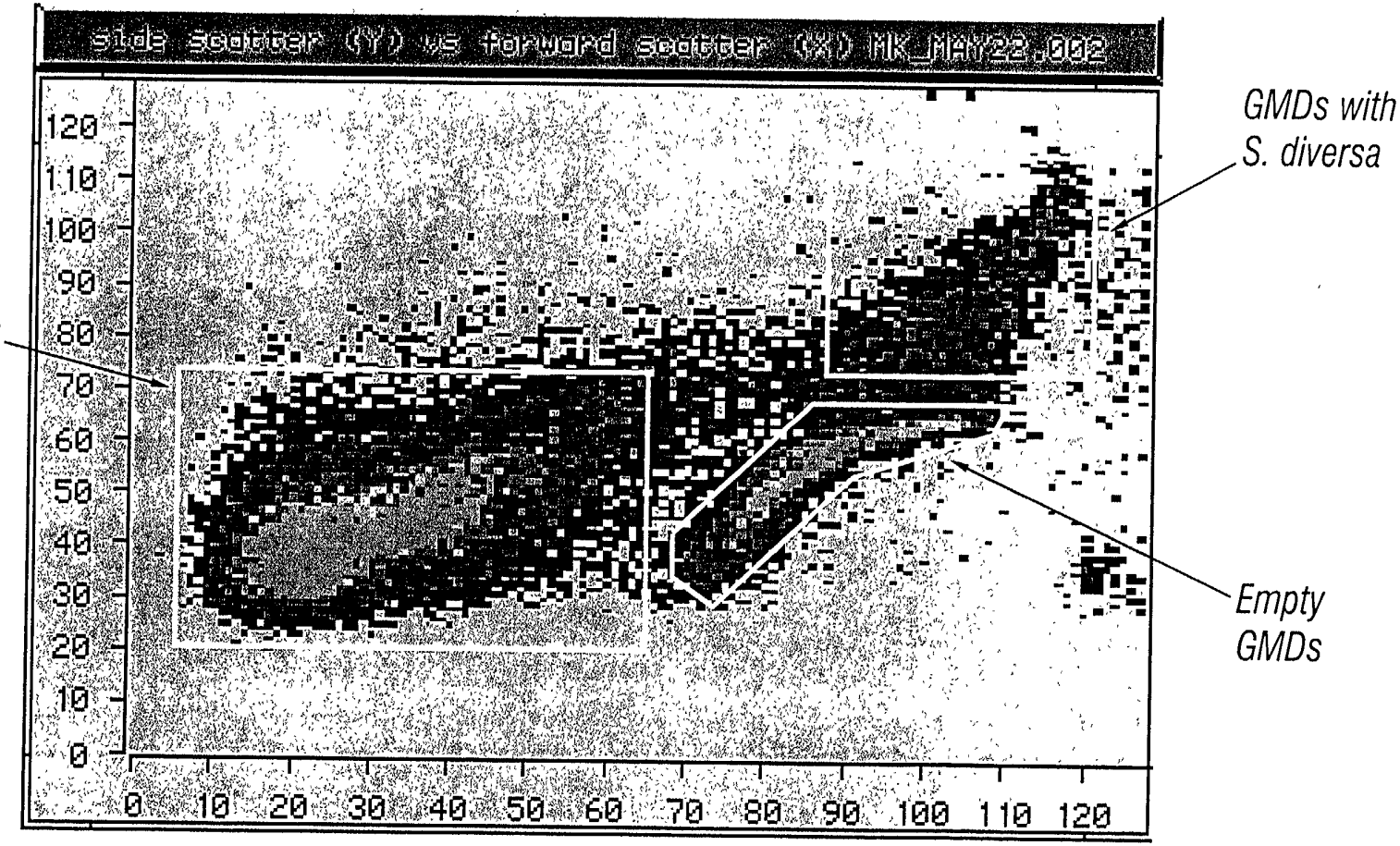

side scatter (Y) vs forward scatter (X) MK_MAY22.002
120
110
100
90
80
70
60
50
40
30
20
10
0
0 10 20 30 40 50 60 70 80 90 100 110 120
Free cells and debris
GMDs with S. diversa
Empty GMDs

FIG. 17

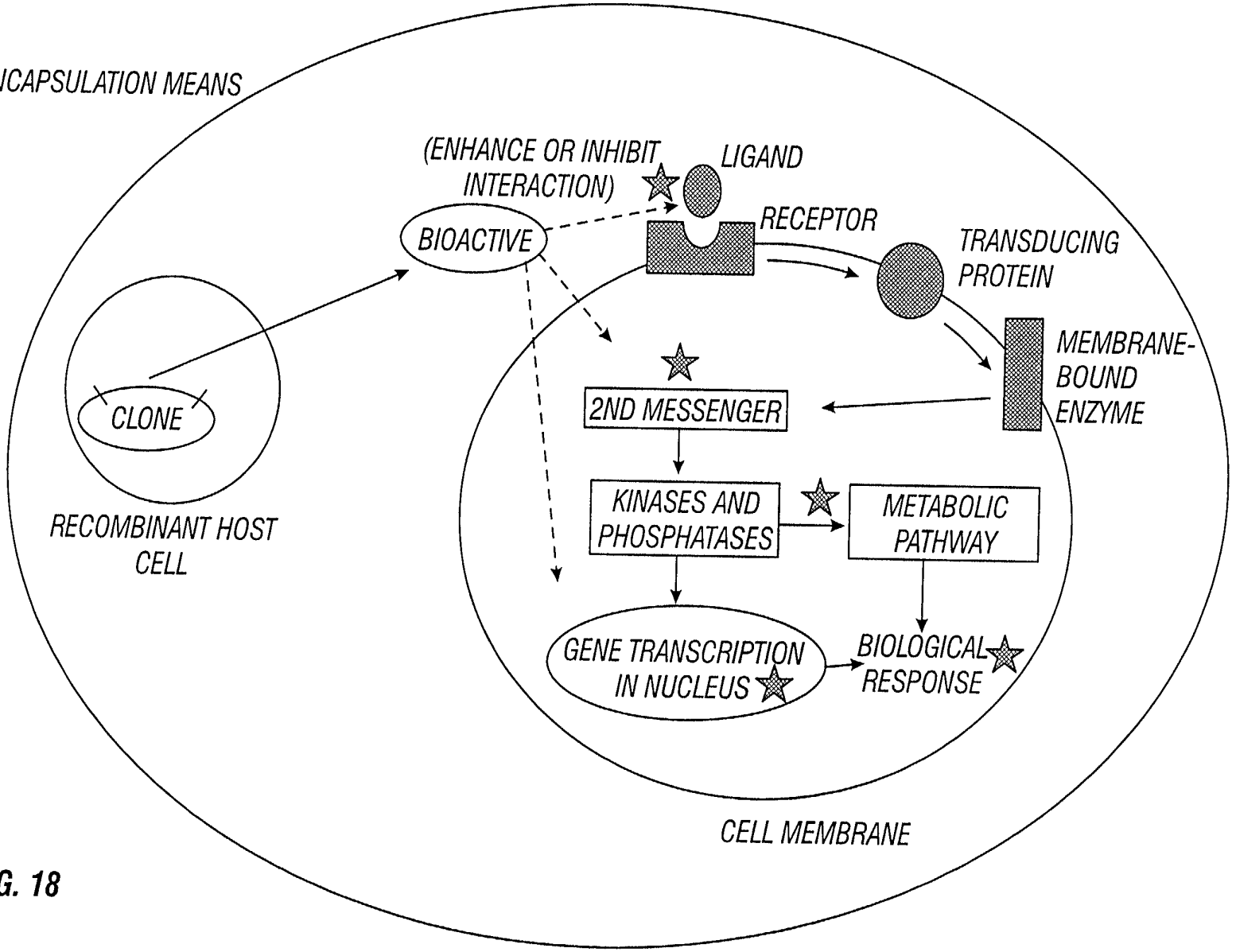


FIG. 18